

METHODS AND APPARATUS FOR COMMUNICATION USING  
GENERALIZED LOW DENSITY PARITY CHECK CODES

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Abstract

Techniques and systems for design and use of generalized LDPC codes. A generalized LDPC code comprises a set of codewords producing valid results when submitted to a validator comprising a set of variable nodes and a set of check nodes, with outputs of the variable nodes being connected to inputs of the check nodes by interleaver edges. Each check node and variable node is in the form of a code, with the output of a node being valid if its inputs form a valid codeword. An extrinsic information transfer function (EXIT) chart is used to form a check node curve and a variable node curve is matched to the check node curve. The variable nodes are then constructed so as to provide the information transfer properties indicated by the variable node curve.